Amendment to the Claims

1. (Currently amended) A method for generating tissue deformation information comprising:

acquiring echo signals for a plurality of beams and a plurality of range positions along ultrasonic beams in an area of interest to cover a spatial region;

determining a beam angle between the ultrasonic beams and a principle direction for local tissue deformation;

computing at least one angle corrected tissue deformation parameter along said principal direction for at least one spatial location, wherein said computation of at least one angle corrected tissue deformation parameter comprises:

(i) computing a radial velocity gradient radially along the ultrasound beam;

(ii) computing a lateral velocity gradient laterally between beams at a fixed range location; and

(iii) deriving angle corrected tissue deformation parameters as a linear combination of said radial and lateral velocity gradients determined by said beam angle; and

displaying at least one of the said angle corrected tissue deformation parameters on a display unit.

2. (Original) The method according to claim 1 wherein said ultrasonic beams are generated with a high lateral resolution inside said area of interest.

3. (Original) The method according to claim 1 wherein the said beam angle determination is computed based on a direction along and perpendicular to a user defined polygon.

4. (Cancelled)

5. (Original) The method according to claim 1 further comprising:

spatially averaging said radial and lateral velocity gradients.

6. (Original) The method according to claim 2 wherein changes in at least one of said angle corrected tissue deformation parameters is displayed as a function of time for a given anatomical location.

7. (Original) The method according to claim 2 wherein the said display is a M Mode display displaying at least one of said angle corrected tissue deformation parameters with time versus location on said user defined polygon.

8. (New) A method for generating tissue deformation information comprising:

determining a beam angle between ultrasonic beams and a principle direction for local tissue deformation;

computing at least one angle corrected tissue deformation parameter along said principal direction for at least one spatial location by: (i) computing a radial velocity gradient radially along the ultrasound beams, (ii) computing a lateral velocity gradient laterally between beams at a fixed range location, and (iii) deriving angle corrected tissue

deformation parameters as a linear combination of said radial and lateral velocity gradients determined by said beam angle; and

displaying at least one of the said angle corrected tissue deformation parameters on a display unit.

9. (New) The method of claim 8 further comprising spatially averaging said radial and lateral velocity gradients.

10. (New) A method for computing at least one angle corrected tissue deformation parameter along a principal direction for at least one spatial location comprising:

computing a radial velocity gradient radially along an ultrasound beam;

computing a lateral velocity gradient laterally between a plurality of ultrasound beams at a fixed range location; and

deriving angle corrected tissue deformation parameters as a linear combination of said radial and lateral velocity gradients determined by a beam angle.

11. (New) The method according to claim 10 further comprising spatially averaging said radial and lateral velocity gradients.

12. (New) The method according to claim 10 further comprising displaying at least one of the angle corrected tissue deformation parameters on a display unit.

13. (New) The method according to claim 12 wherein the ultrasonic beams are generated with a high lateral resolution inside an area of interest.

14. (New) The method according to claim 12 wherein beam angle determination is computed based on a direction along and perpendicular to a user defined polygon.

15. (New) The method according to claim 12 wherein changes in at least one of the angle corrected tissue deformation parameters is displayed as a function of time for a given anatomical location.

16. (New) The method according to claim 14 wherein the display is a M Mode display displaying at least one of the angle corrected tissue deformation parameters with time versus location on said user defined polygon.